

IBM

IBM 4341 Processor

4341

Product Description

The IBM 4341 Processor is designed to provide a high degree of compatibility and growth path for the 3125, 3135, and 3138. It features high performance, large storage sizes, and new RAS enhancements. The 4341 gives enhanced levels of performance and simplicity for stand-alone and distributed data processing solutions. Its concepts include:

- Ease of installation with minimum disturbance of existing I/O configurations.
- Selectable system modes that allow running in System/370 mode or in ECPS: VSE mode (Extended Control Program Support: VSE).

- High speed, high density technology.
- Byte/Block multiplex channels for attachment of I/O units.
- Support Processor for maintenance.
- Remote Support Facility (RSF).
- Enhanced System/370 architecture.
- Uses an IBM 3278-2A as a display console for the customer console and as the CE input/output device.
- Provides connectors for attachment of three (3) optional operator consoles (3278-2As) and/or 3287 Model 1 or 2.

Most I/O devices are supported for

channel attachment via Byte or Block multiplexer channels.

For a complete list of supported I/O devices, refer to the DPD announcement material.

Technology

- Bi-Polar LSI Logic
- FET-LSI
- MST
- ELSI (Early Large Scale Integration)
- 208/230 VAC 3 Phase
- Ferro-Resonant Power Supplies



Photo is of a Design Model

Main System Features

The 4341 processing unit, storage, and channels are functionally packaged and executed in new high density circuitry.

Processing Unit

Uses microcode to decode machine instructions. Processor cycle time is 150 to 300 nanoseconds.

Storage

Main storage is offered at two (2) or four (4) MB. The High Speed Buffer is eight (8) KB.

Channels

Three (3) channels are standard. Two (2) block multiplexer channels and one (1) byte multiplexer channel. Three (3) additional block multiplexer channels are available as an optional feature.

Support Processor (SP)

The 4341 contains an independent SP that provides support for maintenance. It is used for:

- Error logging
- Error recovery
- Error Log Analysis (ELA)

- Power, temperature, and air flow monitors
- Electromagnetic Compatibility (EMC) monitoring
- Control of the Display Console and console printer
- Control of the System Diskette Facility
- Control of the Remote Support Facility (RSF)
- Control of the Support Bus Adapter (SBA).
- Control of the Local Channel Adapter (LCA)

For a complete list of standard and optional features, refer to the DPD announcement material.

Maintainability

Maintenance of the 4341 is enhanced through the use of:

- Maintenance Analysis Procedures (MAPs)
- Error Log Analysis (ELA)
- Scan Ring Latches
- Extensive Parity and Compare Checking
- Hardware Instruction Retry
- Diskette Resident Diagnostics
- Fault Locating Diagnostics
- New System Test (NST)
- Error Correction Code (ECC) for Main Storage
- Remote Support Facility (RSF)
- Machine Speed Micro Diagnostics (MSMD)

- Channel Sequence Logging
 - Microword Logic Trace
 - CE Bring-Up Panel
 - Integrated Power System (IPS) Test Station
 - Power, Temperature, and Air Flow Monitors
 - Electromagnetic Compatibility (EMC) Monitor
- EREP, FRIEND, NST, and OLT-SEP/OLTEP will support most channel attached I/O.

Compatibility

The 4341 is compatible with System/360 and System/370 provided the programming adheres to the rules as described in the IBM 4300 Processors Principles of Operations (GA22-7070).

Two modes of operation are available. The mode is selected at Initial Microcode Load (IML) time.

- System/370 mode with two (2) performance options:
 - ECPS: VS1 assist
 - ECPS: VM/370 assist
- ECPS: VSE mode

The 4341 is supported by applicable releases of DOS/VSE, OS/VS1, and VM/370. For additional information, refer to the DPD announcement material.

Service Highlights

The 4341 is serviced using an eight (8) digit error code called a Reference Code, which is displayed on the console through the Support Processor (SP). The SP monitors error circuits and provides failure recording and isolation for machine errors. It also provides manual operations from the 3278-2A Console Display.

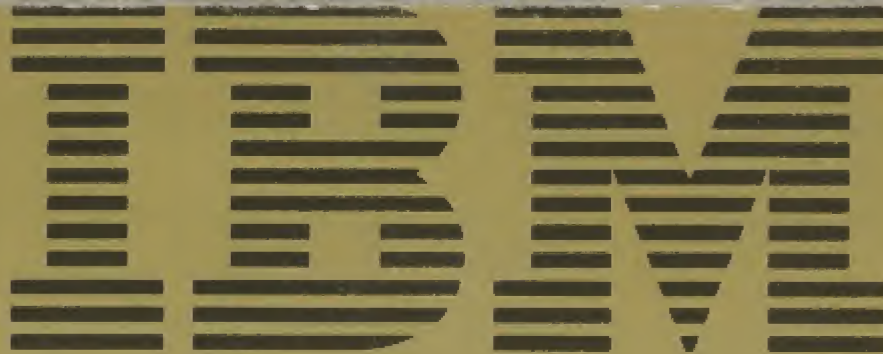
Error Log Analysis (ELA) or diagnostics provide a Reference Code to enter the MAPs. Machine errors are logged onto the System Diskette Facility and time stamped.

- Instruction Retry reduces the effects of intermittent failures.

- Single bit error correction in Main Storage is transparent to the customer and causes no machine degradation.
- Scan Ring Latches can report the condition of all the latches in the Processing Unit and Storage Control Units of the 4341.
- Machine errors, EMC, Power, Air Flow, and Temperature are constantly monitored. Error conditions are logged on the System Diskette Facility.
- Remote Support Facility (RSF) will provide the IBM CE with access to the TIP/DIAG file, Information Transfer Facility, Installation Incident Facility, and Refer-

ence Code Data Bank. RSF will allow console operation from a remote IBM terminal or an IBM 3275 with switched line dial capability.

International Business Machine Corporation
Field Engineering Division
360 Hamilton Avenue
White Plains, NY 10601



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